CENTRAL MACHINERY®

TOW-BEHIND SHREDDER

11 HP

Model 65342

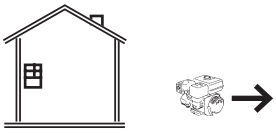
SET UP, OPERATING, AND SERVICING INSTRUCTIONS

⚠ DANGER

Using an engine indoors CAN KILL YOU IN MINUTES.

Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell.

NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: http://www.harborfreight.com

Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

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For technical questions or replacement parts, please call 1-800-444-3353.

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CONTENTS

IMPORTANT SAFETY INFORMATION 3

BASIC SPECIFICATIONS 7

UNPACKING 7

ASSEMBLY INSTRUCTIONS 8

OPERATING INSTRUCTIONS 12

- STARTING THE ENGINE 12
- EQUIPMENT OPERATION 14

TECHNICAL SPECIFICATIONS .. 17

SERVICING 17

- MAINTENANCE PROCEDURES 17
- CLEANING, MAINTENANCE, AND LUBRICATION SCHEDULE: ENGINE 20
- STORAGE 20
- CLEANING, MAINTENANCE, AND LUBRICATION SCHEDULE: MACHINE 21

TROUBLESHOOTING - ENGINE 22

TROUBLESHOOTING - SHREDDER 24

PARTS LISTS AND ASSEMBLY DIAGRAMS 25

- PARTS LIST - SHREDDER 25
- ASSEMBLY DIAGRAM - SHREDDER 26
- PARTS LIST & ASSY. DIAGRAM - CYLINDER HEAD SYSTEM 27
- PARTS LIST & ASSY. DIAGRAM - CYLINDER BARREL 27
- PARTS LIST & ASSY. DIAGRAM - CRANKCASE COVER 28
- PARTS LIST & ASSY. DIAGRAM - CRANKSHAFT 28
- PARTS LIST & ASSY. DIAGRAM - PISTON 29
- PARTS LIST & ASSY. DIAGRAM - CAMSHAFT 29
- PARTS LIST & ASSY. DIAGRAM - RECOIL STARTER 30
- PARTS LIST & ASSY. DIAGRAM - FAN COVER 30
- PARTS LIST & ASSY. DIAGRAM - CARBURETOR 31
- PARTS LIST & ASSY. DIAGRAM - FLYWHEEL 31
- PARTS LIST & ASSY. DIAGRAM - IGNITION SYSTEM 32
- PARTS LIST & ASSY. DIAGRAM - STARTER MOTOR 32
- PARTS LIST & ASSY. DIAGRAM - CONTROL SYSTEM 33
- PARTS LIST & ASSY. DIAGRAM - MUFFLER SYSTEM 33
- PARTS LIST & ASSY. DIAGRAM - AIR CLEANER 34
- PARTS LIST & ASSY. DIAGRAM - FUEL TANK SYSTEM 34

LIMITED 1 YEAR / 90 DAY WARRANTY 35

EMISSION CONTROL SYSTEM WARRANTY 35

PLEASE READ THE FOLLOWING CAREFULLY 36

SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠DANGER **DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.**

⚠WARNING **WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.**

⚠CAUTION **CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**

NOTICE **NOTICE is used to address practices not related to personal injury.**

CAUTION **CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.**

WARNING! Read all instructions. Failure to follow all instructions listed below may result in fire, serious injury and/or DEATH. The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

SET UP PRECAUTIONS

1. Gasoline fuel and fumes are flammable, and potentially explosive. Use proper fuel storage and handling procedures. Do not store fuel or other flammable materials nearby.
2. Have multiple ABC class fire extinguishers nearby.
3. Operation of this equipment may create sparks that can start fires around dry vegetation.
   The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.
4. Set up and use only on a flat, level, well-ventilated surface.

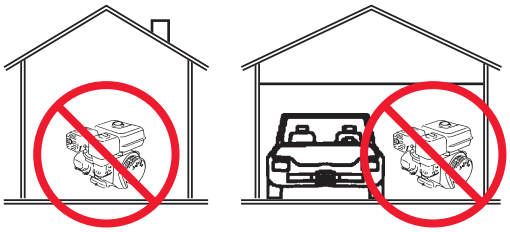
5. Wear ANSI-approved safety goggles and heavy-duty work gloves during set up.

6. Use only oil and fuel recommended in the “Specifications” section of this manual.

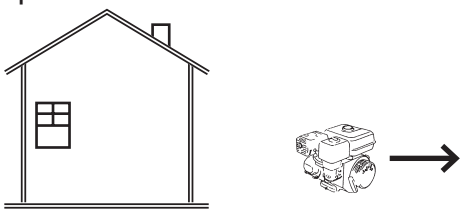
OPERATING PRECAUTIONS

1.

CARBON MONOXIDE HAZARD
Using an engine indoors CAN KILL YOU IN MINUTES.
Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

2. Keep all safety guards in place and in proper working order at all times.

3. NEVER place fingers or hands inside the Chipper Hopper (6) or Shredder Hopper (85) when the machine is running. Do not lean or reach over the Hoppers when the machine is running.

4. Do not look into the Hoppers (6, 85) or Discharge Chute when the machine is running.

5. Keep children away from the Shredder, especially while it is operating.

6. Do not feed metal, stone, glass, or any other non-botanical objects into the Shredder.

7. Do not attempt to shred or chip material larger than specified on the machine or in this manual. **(Chipper Hopper: 3” diameter maximum. Shredder Hopper: 1” diameter maximum.)**

8. This Tow-Behind Shredder is for **off-road use only**. Never attempt to tow the machine on public highways, roads, or thoroughfares. Do not exceed **5** miles per hour when towing.

9. Do not transport the Shredder with the Engine (61) running.

10. Never operate this machine without the Chipper Hopper (6), Shredder Hopper (85), or Guide Board (3) properly attached to the machine.

11. Keep your face and body back and to the side of the Chipper Hopper (6) while feeding material into the machine to avoid accidental kickback injuries.

12. Never operate this machine without good visibility or light.

13. Do not operate this machine on a paved, gravel, or non-level surface.

14. Do not sit or stand on this machine.

15. Do not tilt the machine while the Engine (61) is running.

16. Always stand clear of the discharge zone when operating this Shredder.

17. Before starting the Shredder, make sure the Hoppers (6, 85) and cutting chamber are empty and free of all debris.

18. If it becomes necessary to push material through the Hoppers (6, 85), use a small diameter stick. Do not use your hands, feet, or any metal object.

19. Do not allow processed material to build up in the discharge zone. This may prevent proper discharge and can result in kickback of material through the Hopper (6, 85) openings.

20. If the machine's Impeller strikes a foreign object, or if the machine begins making an unusual noise or vibrates excessively, immediately shut off the Engine (61). Allow the Impeller to come to a complete stop. Disconnect the spark plug wire. Then perform the following steps:
    a. Inspect for damage.
    b. Repair or replace damaged parts.
    c. Check for any loose parts and tighten to ensure continued safe operation.

21. Do not leave the Shredder unattended when it is running. Turn off the Engine before leaving the work area.

22. Wear ANSI-approved safety goggles, hearing protection, and heavy duty work gloves during use.

23. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to a heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near the engine's magneto or recoil starter.

24. Use only accessories that are recommended by Harbor Freight Tools for your model. Accessories that may be suitable for one piece of equipment may become hazardous when used on another piece of equipment.

25. Do not operate in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Gasoline-powered engines may ignite the dust or fumes.

26. Stay alert, watch what you are doing and use common sense when operating this piece of equipment. Do not use this piece of equipment while tired or under the influence of drugs, alcohol or medication.

27. Do not overreach. Keep proper footing and balance at all times. This enables better control of the equipment in unexpected situations.

28. Use this equipment with both hands only. Using equipment with only one hand can easily result in loss of control.

29. Dress properly. Do not wear loose clothing or jewelry. Keep hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

30. Parts, especially exhaust system components, get very hot during use. Stay clear of hot parts.

31. Do not cover the engine or equipment during operation.

32. Keep the equipment, engine, and surrounding area clean at all times.

33. Use the equipment, accessories, etc., in accordance with these instructions and in the manner intended for the particular type of equipment, taking into account the working conditions and the work to be performed. Use of the equipment for operations different from those intended could result in a hazardous situation.

34. Do not operate the equipment with known leaks in the engine's fuel system.

35. This product contains or, when used, produces a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. (California Health & Safety Code § 25249.5, *et seq.*)

36. When spills of fuel or oil occur, they must be cleaned up immediately. Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a bottom-ventilated, covered, metal container.

37. Keep hands and feet away from moving parts. Do not reach over or across equipment while operating.

38. Before use, check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the equipment's operation. **If damaged, have the equipment serviced before using.** Many accidents are caused by poorly maintained equipment.

39. Use the correct equipment for the application. Do not modify the equipment and do not use the equipment for a purpose for which it is not intended.

SERVICE PRECAUTIONS

1. **Before service, maintenance, or cleaning:**

   a. Turn the engine switch to its "OFF" position.

   b. Allow the engine to completely cool.

   c. **Then, remove the spark plug.**

2. **Never attempt to unclog either the feed intake or discharge opening while the Engine (61) is running. Immediately shut off the Engine (61). Allow the Impeller to come to a complete stop. Remove the Spark Plug from the Engine. Then perform the following steps:**

   a. Remove the clogged material.

   b. Inspect for damage.

   c. Repair or replace damaged parts.

   d. Check for any loose parts and tighten to ensure continued safe operation.

3. Keep all safety guards in place and in proper working order. Safety guards include muffler, air cleaner, mechanical guards, and heat shields, among other guards.

4. Do not alter or adjust any part of the equipment or its engine that is sealed by the manufacturer or distributor. Only a qualified service technician may adjust parts that may increase or decrease governed engine speed.

5. Wear ANSI-approved safety goggles and heavy duty work gloves during service.

6. Maintain labels and nameplates on the equipment. These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

7. Have the equipment serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the equipment is maintained. Do not attempt any service or maintenance procedures not explained in this manual or any procedures that you are uncertain about your ability to perform safely or correctly.

8. Store equipment out of the reach of children.

9. Follow scheduled engine and equipment maintenance.

10. Refueling Precautions:

    a. Do not smoke, or allow sparks, flames, or other sources of ignition around the equipment, especially when refuelling.

    b. Do not refill the fuel tank while the engine is running or hot.

    c. Do not fill fuel tank to the top. Leave a little room for the fuel to expand as needed.

    d. Refuel in a well-ventilated area only.

SAVE THESE INSTRUCTIONS.

BASIC SPECIFICATIONS

Fuel	Type	89+ octane unleaded gasoline
	Capacity	1.72 Gallons
Engine Oil	Type	10W-30
	Capacity	1.16 Quarts

Note: Additional specifications found in the TECHNICAL ENGINE SPECIFICATIONS chart in this manual.

The emission control system for this engine is warranted for standards set by the U.S. Environmental Protection Agency. For warranty information, refer to the last pages of this manual.

At high altitudes, the engine's carburetor, governor, and any other parts that control the fuel-air ratio will need to be adjusted by a qualified mechanic to allow efficient high-altitude use and to prevent damage to the engine and any other devices used with this product.

UNPACKING

When unpacking, check to make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

ASSEMBLY INSTRUCTIONS

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠WARNING TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING:
Turn the Power Switch of the equipment to its "OFF" position, wait for the engine to cool, and remove the Spark Plug before assembling or making any adjustments to the equipment.

⚠WARNING TO PREVENT SERIOUS INJURY:
Operate only with proper spark arrestor installed.

Operation of this equipment may create sparks that can start fires around dry vegetation.
The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

1. Attach the two Back Axle Brackets (38) to the rear of the frame using four Hex Bolts (36) and four Lock Nuts (9). Then insert the Back Axle (37) into the bottom hole of the two Back Axle Brackets. **(See Figures A and B.)**

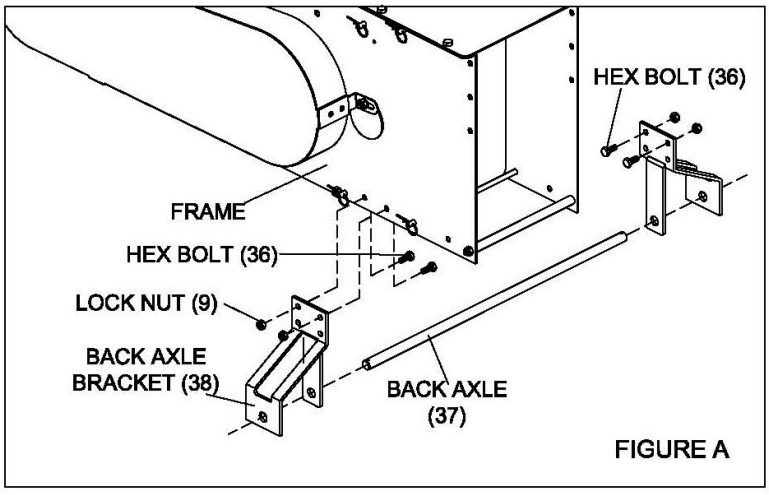


FIGURE A

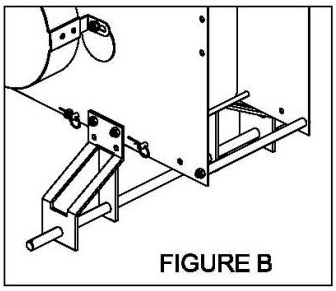


FIGURE B

2. Attach the Front Axle Bracket (45) and Front Axle (43) to the front of the frame using four Hex Bolts (36) and four Lock Nuts (9). **(See Figures C and D, next page.)**

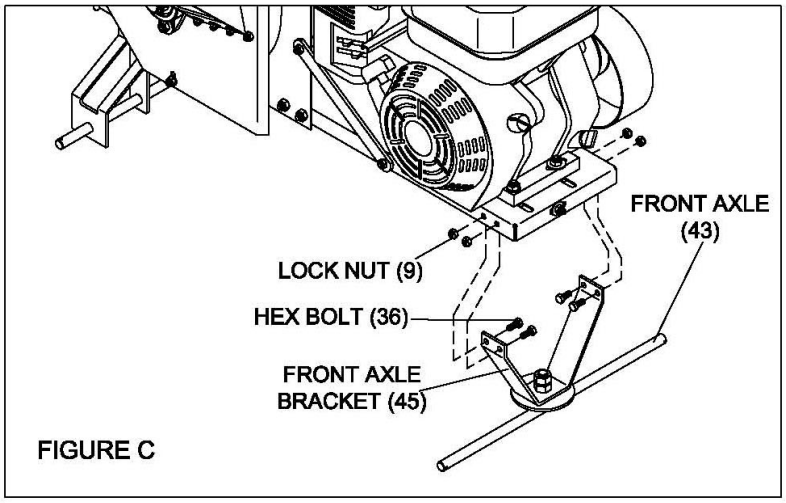


FIGURE C

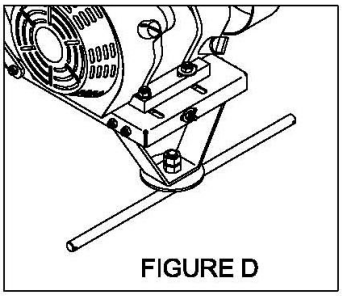


FIGURE D

3. Attach the Handle Assembly (52) to the Front Axle (43). **(See Figures E and F.)**

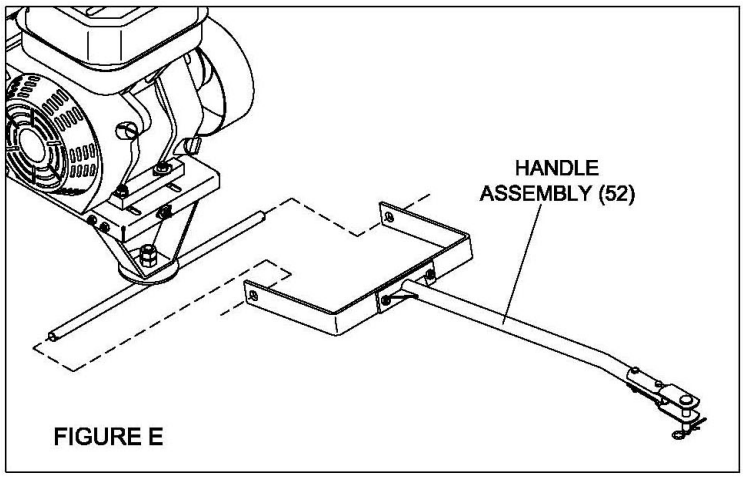


FIGURE E

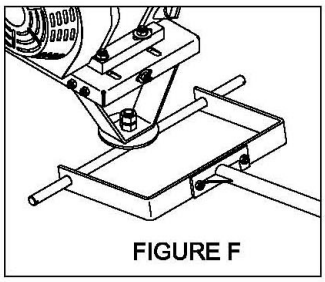


FIGURE F

4. Attach a Wheel (39) to the Back Axle (37) using one Flat Washer (40) and one Cotter Pin (41). Make sure to spread the Cotter Pin once it is inserted through the end of the Back Axle. Then repeat this step for the other end of the Back Axle. **(See Figures G and H, next page.)**

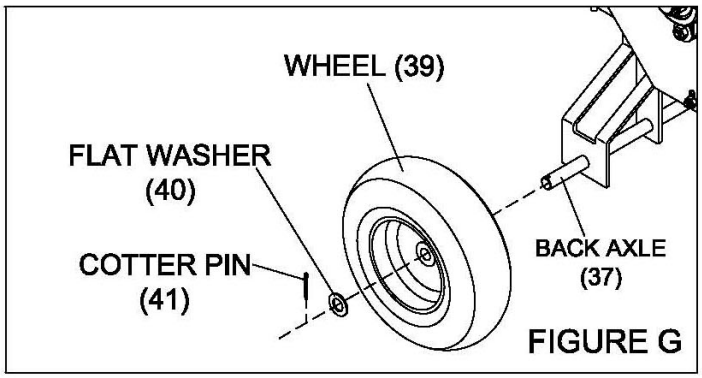


FIGURE G

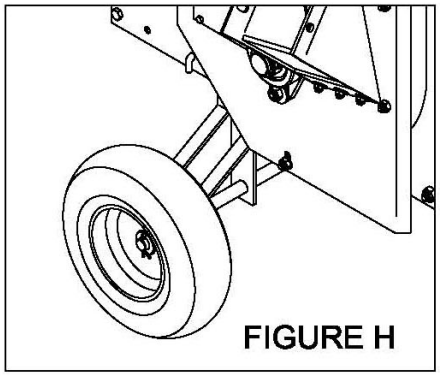


FIGURE H

5. Attach a Wheel (39) to the Front Axle (43) using one Axle Bushing (42), one Flat Washer (40), and one Cotter Pin (41). Make sure to spread the Cotter Pin once it is inserted through the end of the Front Axle. Then repeat this step for the other end of the Front Axle. **(See Figures I and J.)**

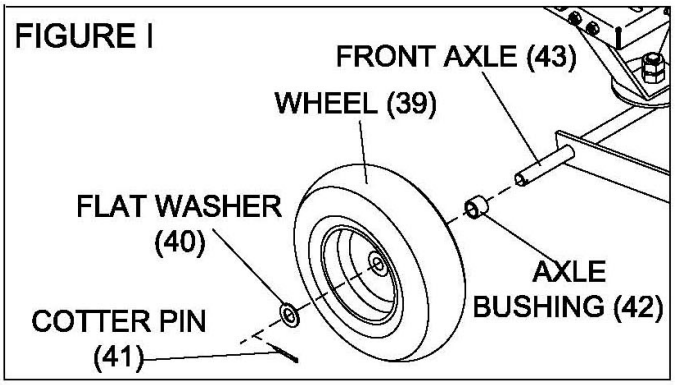


FIGURE I

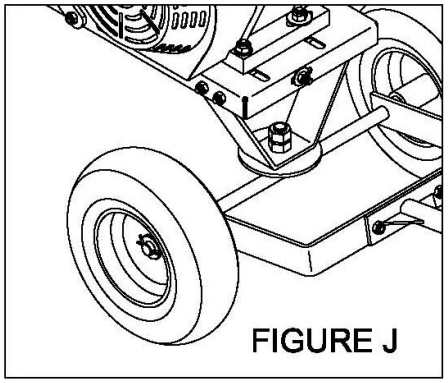


FIGURE J

6. Place four Cushion Washers (86) between Shredder Hopper and the machine. Insert four Hex Bolts (87) upward through the machine and base of the Shredder Hopper (85). Then secure the Shredder Hoppper to the machine using four Lock Nuts (9). **(See Figures K and L.)**

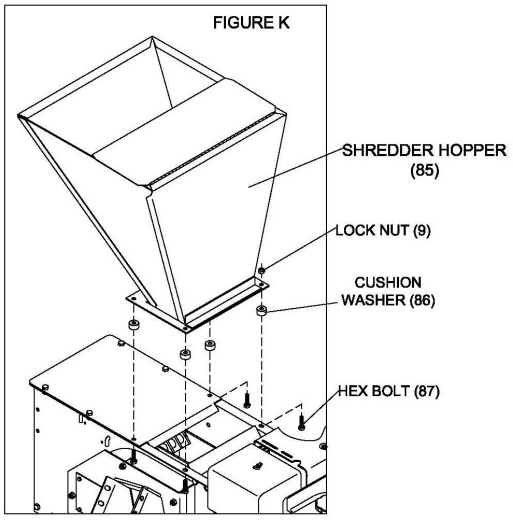


FIGURE K

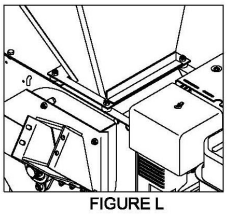


FIGURE L

7. Insert four Carriage Bolts (7) through the square holes in the bottom of the Chipper Hopper *opening* going from inside-out. Locate the four mounting holes of the Chipper Hopper (6) onto the four Carriage Bolts. Then secure the Chipper Hopper to the machine using four Big Washers (8) and four Lock Nuts (9). **(See Figures M and N.)**

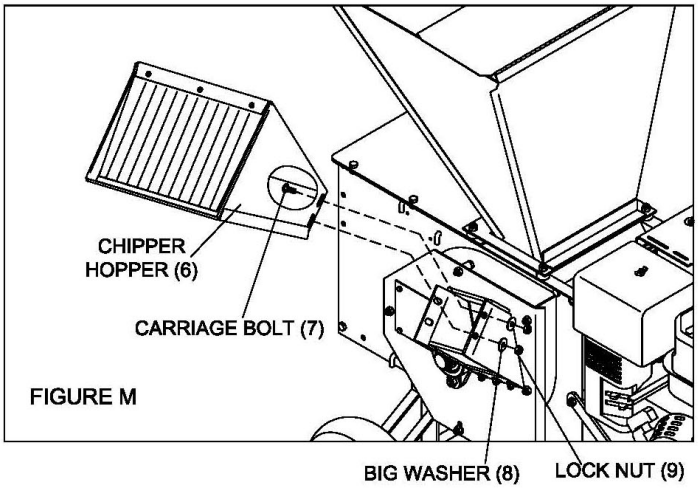


FIGURE M

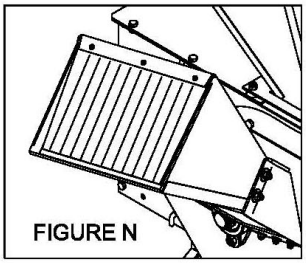


FIGURE N

8. Attach the Plastic Board (83) to the Shredder Hopper (85) using three sets of Hex Bolt (84), Press Bar (91) and Lock Nut (27). **(See Figures O and P.)**

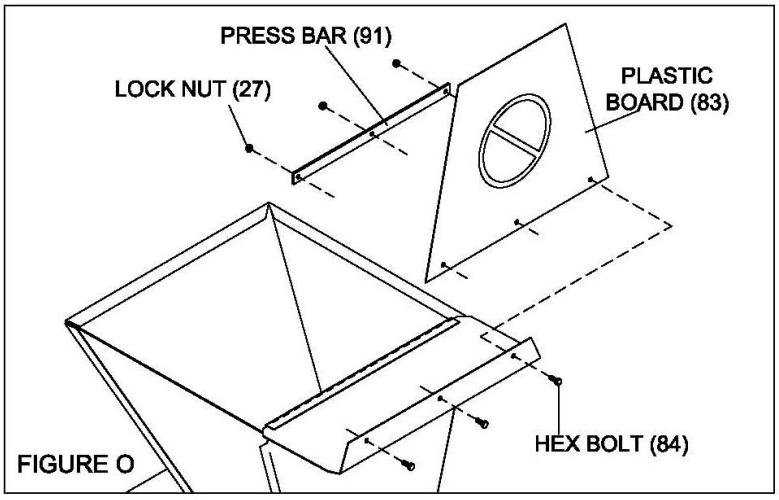


FIGURE O

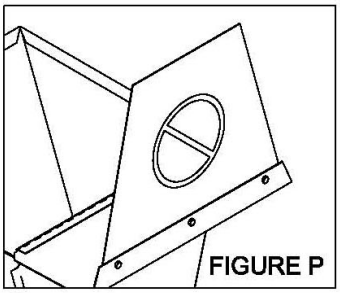


FIGURE P

9. The Tow-Behind Shredder is now fully assembled. **(See Figures Q and R.)**

FIGURE Q

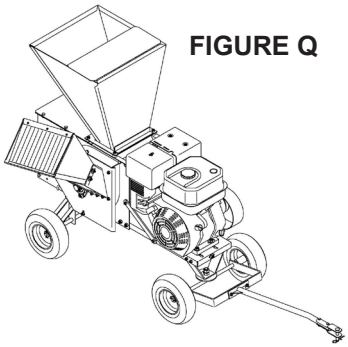
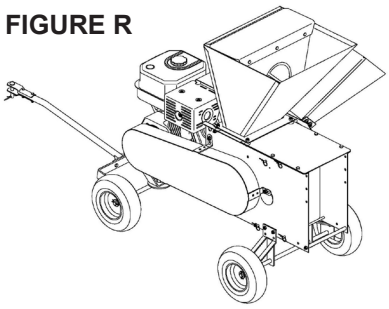


FIGURE R



OPERATING INSTRUCTIONS

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Starting the Engine

Inspect the Engine (61) and the Shredder looking for damaged, loose, and missing parts before set up and starting. If any problems are found, do not use the machine until properly repaired.

Checking and Filling Engine Oil:

CAUTION! Your Warranty is VOID if the Engine's crankcase is not properly filled with oil before each use. Before each use, check the oil level. Do not run the Engine with low or no engine oil. Running the Engine with no or low engine oil WILL permanently damage the Engine.

1. Remove the Dipstick and wipe it off with a clean rag. Clean area around Dipstick. **(See Figures S and T.)**
2. Reinsert the Dipstick (do not thread in) completely and remove it to check the oil level. The oil level should be between the high and low marks on the Dipstick. **(See Figures S and T.)**
3. If the oil level is below the low mark add the appropriate type of oil until the oil level is between the high and the low marks.
   Oil type and capacity:
   SAE 10W-30 / 1.16 Quarts
4. Replace the Oil Dipstick. **(See Figures S and T.)**

CAUTION! Do not run the Engine with too little or too much oil. The Engine will be permanently damaged.

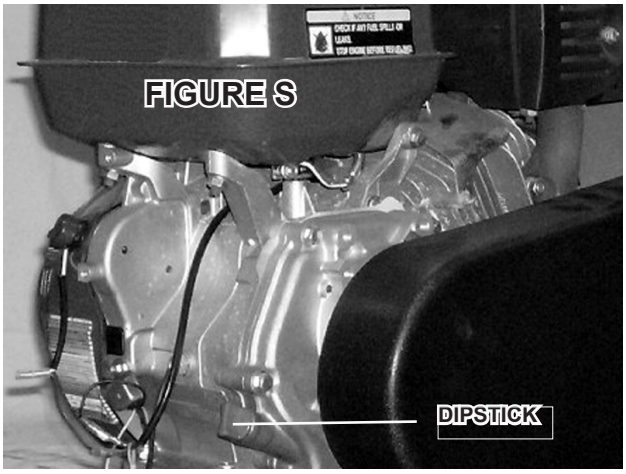


FIGURE S

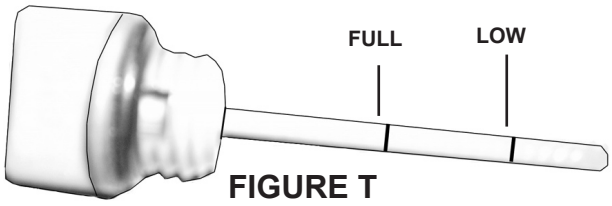


FIGURE T

Checking and Filling Fuel:

1. Check the fuel level on the built in fuel gauge. **(See Figure U, next page.)**

⚠WARNING! TO PREVENT SERIOUS INJURY FROM FIRE:
Fill the Fuel Tank in a well-ventilated area away from ignition sources. Do not smoke. Do not fill when engine is hot.

2. To fill the Fuel Tank, first wipe off the Fuel Tank Cap and the surrounding area. **(See Figure U.)**

3. Unscrew, and remove the Fuel Tank Cap. **(See Figure U.)**

4. Remove the Fuel Tank Filter and remove any dirt and debris. Then replace the Fuel Tank Filter. **(See Figure U.)**

5. Fill the Fuel Tank to about 1 inch under the fill neck of the Tank with the unleaded gasoline mixture. **(See Figure U.)**

6. Then replace the Fuel Tank Cap. **(See Figure U.)**

FIGURE U

Start Procedure:

Before starting the engine:

a. Follow the Set Up Instructions to prepare the equipment.

b. Inspect the equipment and Engine.

c. Fill the Engine with the proper amount and type of fuel and oil.

d. Read the Equipment Operation section that follows.

1. Turn the Engine Fuel Valve to its “OPEN” position. **(See Figure V.)**

2. Turn the Engine Choke Lever to its “CHOKE” position. Set the Choke Lever in the “RUN” position when starting a warm Engine. **(See Figure V.)**

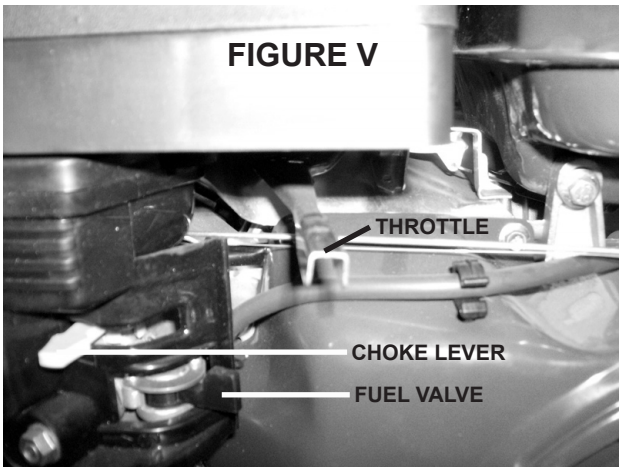
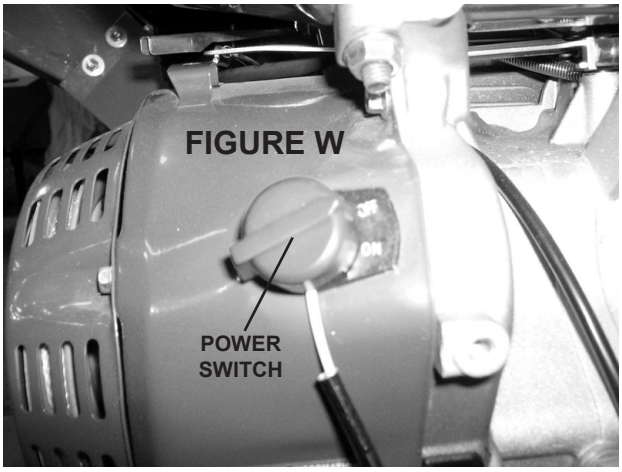
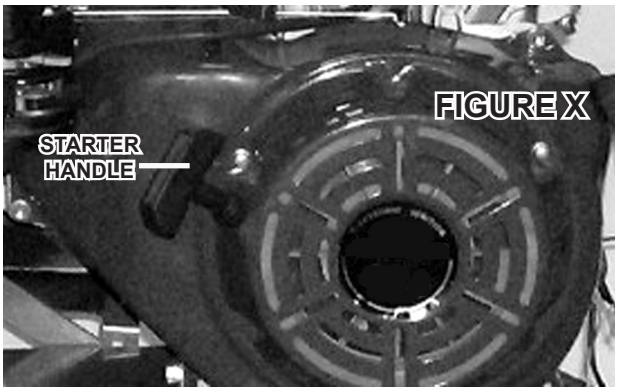


FIGURE V

3. Then turn the Engine Power Switch to its “ON” position. **(See Figure W, next page.)**



4. Grasp the Starter Handle, and pull slowly until resistance is felt. While holding the Handle, allow the Starter Rope to rewind slowly. Then, pull the Starter Handle with a rapid, full arm stroke. Once again while holding the Handle, allow the Rope to rewind slowly. Repeat as necessary, until the Engine starts. **(See Figure X.)**



5. After the Engine starts and warms up, slowly move the Choke Lever to its "RUN" position. **(See Figure V.)**

6. To adjust the Engine's speed, move the Engine Throttle to the left for increased speed. Move the Throttle to the right for decreased speed. **(See Figure V.)**

7. IMPORTANT: Allow the Engine to run at no load until warm (1-5 minutes) with no load after each start-up to allow the Engine to stabilize.

Break-in Period:

1. Breaking-in the Engine will help to ensure proper equipment and Engine operation, and will extend the Engine's lifespan. The warranty is void if the Engine is not broken in properly. The first 20 hours of operation is the break-in period.

2. During the first 3 hours of use:
   - Do not apply a heavy load to the equipment.
   - Do not operate the Engine at its maximum speed.

3. After the first 20 hours of use:
   - Change the engine oil.

   Under normal operating conditions subsequent maintenance follows the schedule explained in the MAINTENANCE AND SERVICING section.

Equipment Operation

Using the Shredder Hopper:

1. The Tow-Behind Shredder can process dry or green organic material. Green material will process easier and faster than dry material. Soft wood processes easier than hard wood. Rotating the branch as you feed it into the machine will improve performance.

2. The Shredder Hopper (85) is located at the top of the machine and is the opening into which all materials to be shredded should be fed. **(See Figure Y.)**

3. Due to the wide variety of materials that can be shredded, and their different physical characteristics, only feed limited quantities of any material into the Shredder Hopper (85) at first. The amount and length of material can be increased if you find that the material is being processed without any difficulty.

4. Make sure not to overload the machine by feeding too much material into the Shredder Hopper (85) at one time. If you hear the RPM's (speed) of the Engine decreasing, immediately stop feeding material into the machine. Do not resume feeding material into the hopper until the Engine has returned to full speed.

5. **The maximum diameter of material that can be shredded is 1".** Any material larger than 1" diameter should be fed into the Chipper Hopper (6).

6. Several small branches can be fed into the Shredder Hopper (85) at one time providing their combined diameter is less than 1".

7. Branches longer than three feet should be cut to make them more manageable.

⚠ DANGER

8. Use safety equipment. Always wear ANSI-approved safety goggles, hearing protection, and heavy duty work gloves.

9. Make sure the Tow-Behind Shredder is located on a dry, flat, level surface capable of supporting the weight of the machine, materials being processed, the operator(s), and any additional tools and equipment.

10. Make sure the machine is empty of material prior to starting the unit.

11. Start the Engine (61), and allow it to run at full speed. **(Refer to previous instructions in this manual for Engine starting and operation.)**

12. Always stand clear and to the side of the Discharge Chute located at the bottom of the machine.

13. Without putting your hands into the Shredder Hopper (85), slowly drop the material into the Hopper. The machine will pull the material in automatically.
(See Figure Y.)

⚠ DANGER

14. Never use your hands to feed material into the Shredder Hopper (85). If necessary, use a stick to push the branches, leaves, etc. into the Hopper. **(See Figure Y.)**

15. Do not allow processed material to build up in the Discharge Chute. This may prevent proper discharge and can result in kickback of material through the Shredder Hopper (85). **(See Figure Y.)**

16. Should the machine jam during use, immediately turn off the Engine's Power Switch. Wait until the machine completely stops. Allow the Engine (61) to completely cool. **Remove the Engine's Spark Plug Wire.** Clear the jam. Re-install the Spark Plug Wire. Then restart engine and resume operation.

17. When finished, turn the Engine's Power Switch to its "OFF" position. Wait until the machine completely stops. Allow the Engine to com-

pletely cool. **Remove the Engine's Spark Plug Wire**. Then clean out the interior of the machine and its Discharge Chute.

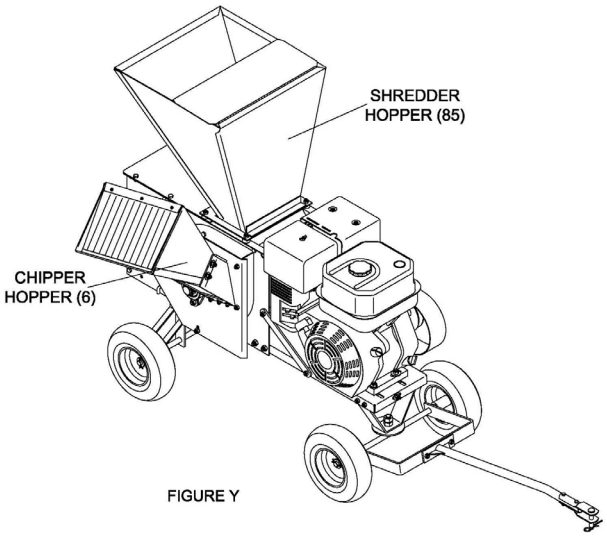


FIGURE Y

Using the Chipper Hopper:

1. The Chipper Hopper (6) is located on the side of the machine and is designed to chip the larger, heavier materials that the Shredder Hopper is not designed to handle. **(See Figure Y.)**

2. The Chipper Hopper (6) can chip branches and vines ranging in size from **1" to 3" in diameter**. **(See Figure Y.)**

3. Make sure to cut the material into manageable lengths (5 or 6 feet long) before feeding them into the Chipper Hopper (6).

4. Do not force material into the Chipper Hopper (6). If the machine does not chip well, have a qualified service technician sharpen or replace the Chipper Knives and/or adjust the gap between the Knives and Wear Plate.

5. Extremely hard knots will not process very well. Short stubs that have not self-fed into the Chipper Hopper (6) can be pushed through with the next branch to be chipped. **Do not throw remaining stubs or unchippable knots into the Chipper Hopper. Damage to the machine will result. (See Figure Y.)**

6. If branches are larger than 1" diameter, feed only one branch at a time through the Chipper Hopper (6). **(See Figure Y.)**

7. Branches smaller than 1" diameter can be bundled together and fed through the Chipper Hopper (6) at one time. **(See Figure Y.)**

8. Overloading the Tow-Behind Shredder will cause the Engine (61) RPM's (speed) to decrease. If you hear the Engine RPM's decreasing, stop feeding material into the machine until the Engine has returned to full speed.

9. When finished, turn the Engine's Power Switch to its "OFF" position. Wait until the machine completely stops. Allow the Engine to completely cool. **Remove the Engine's Spark Plug Wire.** Then clean out the interior of the machine and its Discharge Chute.

TECHNICAL SPECIFICATIONS

Engine Type		Air Cooled, 4-Stroke, Single Cylinder, Overhead Valves.
Engine Starter Type		Recoil Starter
Engine Power Rating		11 H.P.
Engine Speed		Maximum: 2740 RPM Idle: 1780 RPM
Recommended Oil Type and Capacity		10W-30 1.16 Quarts
Low Oil Protection		Yes
Recommended Spark Plug Types		NGK® BPR6ES DENSO® W20EPR-U LD® F7RTC
Spark Plug Gap		0.028”~0.031”
Spark Plug Arrestor Present		Yes
Fuel	Type	89+ octane unleaded gasoline
	Capacity	1.72 Gallons
Engine Approvals	Federal E.P.A. Certification	
Chipper Capacity	3” Diameter Material Maximum.	
Shredder Capacity	1” Diameter Material Maximum.	
Material Types	Organic Materials Only.	
Tire Size, Rating, Type	4.10/3.50 2-Ply Tubed	
Engine Oil Filter	Paper Cartridge	
Drive Belt Type	Goodyear® SPB-1500 V-Belt	
Number of Chipper Blades	1 Piece	
Number of Impeller Blades	24 Pieces	
Highway Rated	Not Rated for Highway Use.	

SERVICING

⚠WARNING TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING:
Turn the Power Switch of the Engine (61) to its “OFF” position, wait for the engine to cool, and remove the Spark Plug before performing any inspection, maintenance, or cleaning procedures.

⚠WARNING TO PREVENT SERIOUS INJURY FROM EQUIPMENT FAILURE:
Do not use damaged equipment. If abnormal noise, vibration, or excess smoking occurs, have the problem corrected before further use.

Maintenance Procedures

Many maintenance procedures, including those not detailed in this manual, will need to be performed by a qualified technician for safety. If you have any doubts about your ability to safely service the equipment or Engine, have a qualified technician service the equipment instead.

Note: Warranty is void if proper maintenance and servicing procedures are not followed.

Engine Oil Change:

⚠**CAUTION!** Oil is very hot during operation and can cause burns. Wait for engine to cool before changing oil.

1. Place a drain pan (not included) underneath the crankcase's Drain Plug. **(See Figure Z.)**
2. Remove the Drain Plug and, if possible, tilt the crankcase slightly to help drain the oil out. Recycle used oil. **(See Figure Z.)**
3. Replace the Drain Plug and gasket and tighten it. **(See Figure Z.)**
4. Refill the oil to the proper level following the instructions under the *"Starting the Engine"* section.

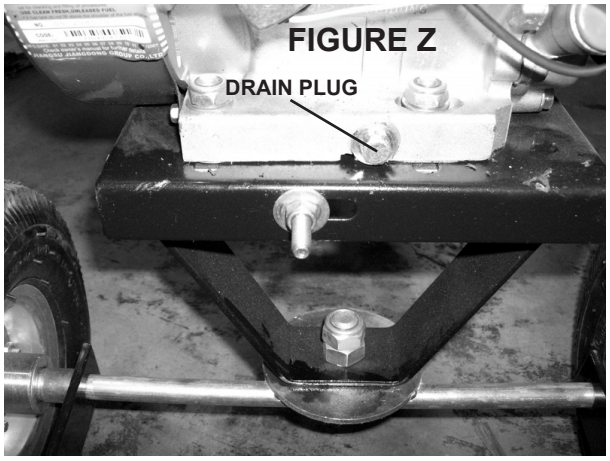


FIGURE Z

Air Filter Element Maintenance:

1. Wipe off the Air Cleaner Cover. **(See Figures AA and BB.)**
2. The Air Cleaner Cover is held in place by a wing nut. Remove it. **(See Figures AA and BB.)**
3. Remove the Air Filter Element. **(See Figures AA and BB.)**
4. Wash the Filter in warm water and mild detergent several times. Rinse. Squeeze out excess water and allow it to dry completely. Soak the Filter in lightweight oil briefly, then squeeze out the excess oil. **(See Figures AA and BB.)**
5. Install the new Air Filter Element or the cleaned Filter. Secure the Air Cleaner Cover before use. **(See Figures AA and BB.)**

FIGURE AA

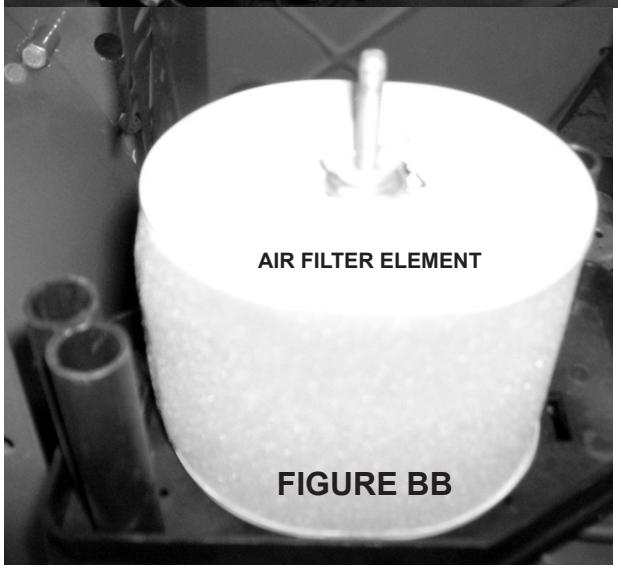


FIGURE BB

Spark Plug Maintenance:

1. Disconnect Spark Plug Wire from end of plug. Clean out debris from around Spark Plug.
2. Using a spark plug wrench, remove the spark plug.
3. Inspect the Spark Plug:
   If the electrode is oily, clean it using a clean, dry rag.
   If the electrode has deposits on it, polish it using emery paper.
   If the white insulator is cracked or chipped, the Spark Plug needs to be replaced. **(See Figure CC.)**
4. When installing a new Spark Plug, adjust the Plug's gap to the specification on the Technical specification chart and in the illustration below. Do not pry against the electrode or the insulator, the Spark Plug can be damaged. **(See Figure CC.)**
5. Install the new Spark Plug or the cleaned Spark Plug into the Engine (61). Gasket-style: Finger-tighten until the gasket contacts the cylinder head, then about 1/2-2/3 turn more. Non-gasket-style: Finger-tighten until the plug contacts the head, then about 1/16 turn more.

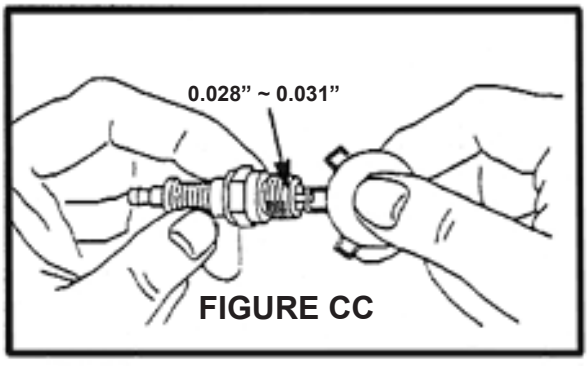
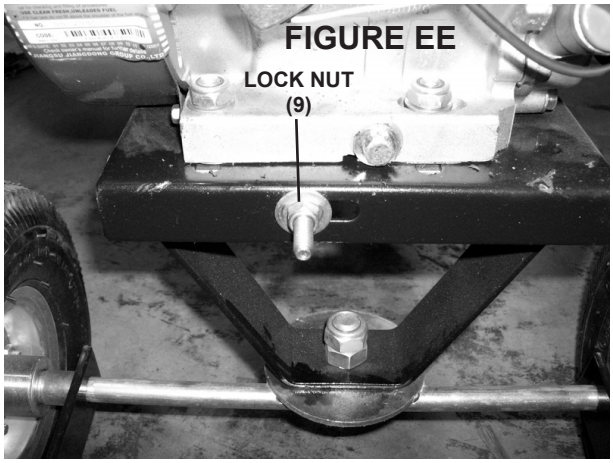


FIGURE CC

To Replace the V-Belt:

1. Unscrew and remove the three Lock Nuts (9) and their three Flat Washers (67) that secure the Belt Guard (66) to the machine. Then remove the Belt Guard to expose the V-Belt (65). **(See Figure DD.)**

2. Loosen the four Hex Bolts (54) at the base of the Engine (61). **(See Assy. Diagram.)**
3. Loosen the Lock Nut (9) to release tension on the V-Belt (65). **(See Figure EE.)**



4. Remove the old V-Belt (65) from the Clutch (62) and Belt Pulley (68). Then install a new V-Belt (type: SPB-1500). **(See Figure FF, next page.)**
5. Once the V-Belt (65) is installed, tighten the Lock Nut (9) on the Belt Tighten Assembly (60) to increase tension on the V-Belt. The proper V-Belt tension is achieved when the Belt deflects **3/8"**. **(See Figure FF.)**

6. Retighten the four Hex Bolts (54) at the base of the engine.

7. When finished tensioning the V-Belt (65), replace the Belt Guard (66) and secure it in place with the three Lock Nuts (9) and their three Flat Washers (67). **(See Figure DD.)**

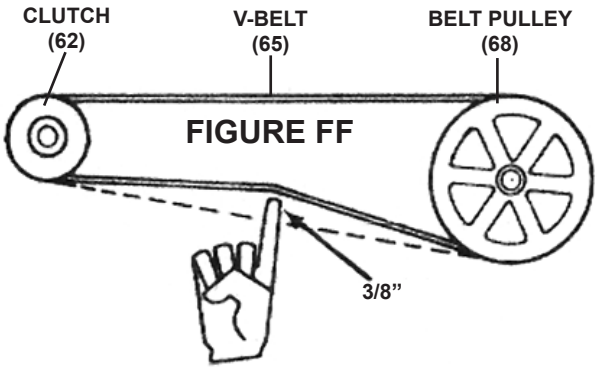


FIGURE FF

Cleaning, Maintenance, and Lubrication Schedule: Engine

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if the Engine operates unusually, check systems immediately. The maintenance needs this Engine will differ depending on factors such as temperature, air quality, fuel quality, and other factors.

Note: These procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the Engine.

After Initial 20 Operation Hours:

a. Change engine oil.

Every 25 Operation Hours Thereafter:

a. Clean/replace Air Filter Element.

b. Inspect/clean Spark Plug.

Every 50 Operation Hours:

a. Change engine oil.

Every 100 Operation Hours:

a. Replace Spark Plug.

b. Replace Air Filter Element.

Note: All maintenance procedures scheduled for 25, 50, and 100 operation hours should be performed at least yearly.

Every 300 Operation Hours:

a. Clean Fuel Tank and Carburetor.

b. Clean carbon build-up from Combustion Chamber.

Storage

1. Wait for Engine to cool, then clean Engine with clean cloth.

2. When the equipment is to remain idle for longer than 20 days, prepare the Engine for storage as follows:

a. Change engine oil and empty Fuel Tank.

b. Either leave Fuel Tank empty or refill Fuel Tank with fresh unleaded gasoline mixed with a fuel stabilizer intended for long term Engine storage (not included). After filling, run Engine for about 5-10 minutes to circulate the treated gasoline through the Carburetor. Wait for Engine to cool before proceeding.

c. Clean out area around Spark Plug. Remove Spark Plug and pour one tablespoon of engine oil into Cylinder through Spark Plug hole.

d. Reinstall Spark Plug, but leave Spark Plug Wire disconnected.

e. Pull Recoil Starter to distribute oil in Cylinder. Stop after one or two revolutions when you feel the Piston start the compression stroke (when you start to feel resistance).

3. Apply a thin coat of rust preventive oil to all uncoated metal parts.

4. Cover and store in a dry, well-ventilated area out of reach of children.

5. Before starting the Engine after storage, keep in mind that aged gasoline will deteriorate quickly. Drain the Fuel Tank, and change to fresh fuel if gasoline has been sitting for a month, or if the Engine does not start properly.

Cleaning, Maintenance, and Lubrication Schedule: Machine

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if equipment operates unusually, check systems immediately. The maintenance needs of this machine will differ depending on factors such as working environment, frequency of use, and other factors.

Note: These procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the machine.

After Initial 8 Operation Hours:

a. Check Chipper Knife for sharpness.

b. Check Knife and Wear Plate gap.

c. Greases all Bearings on machine.

After Every 40 Operation Hours:

a. Check Tire pressure.

b. Remove and sharpen or replace Chipper Knife.

c. Sharpen Wear Plate.

After Every 100 Operation Hours:

a. Replace V-Belt.

When Cleaning:

a. Use water and a mild detergent to clean the exterior parts of the machine. Do not use solvents. Do not introduce water into the Engine ports.

b. Use compressed air to blow out dirt and debris from the interior parts of the machine.

When Storing:

a. Always store the machine in a clean, dry, safe location out of reach of children and other unauthorized persons.

TROUBLESHOOTING - ENGINE

Problem	Possible Causes	Probable Solutions
Engine will not start	FUEL RELATED:	FUEL RELATED:
	1. No fuel in tank or fuel valve closed.	1. Fill fuel tank and open fuel valve.
	2. Choke not in start position, especially with cold engine.	2. Move choke to start position if engine is cold.
	3. Low quality or deteriorated, old gasoline.	3. Use only fresh 89+ octane unleaded gasoline.
	4. Carburetor not primed.	4. Prime carburetor by pressing priming bulb specified number of times (if equipped).
	5. Dirty fuel passageways blocking fuel flow.	5. Clean out passageways using fuel additive. Heavy deposits may require further cleaning.
	6. Carburetor needle stuck. Fuel can be smelled in the air.	6. **Gently** tap side of carburetor float chamber with screwdriver handle.
	7. Too much fuel in chamber. This can be caused by the carburetor needle sticking.	7. Turn choke to run position. Remove spark plug and pull the start handle several times to air out the chamber. Reinstall spark plug and set choke to start position.
	IGNITION (SPARK) RELATED:	IGNITION (SPARK) RELATED:
	1. Spark plug wire not connected securely.	1. Connect spark plug wire properly.
	2. Spark plug electrode wet or dirty.	2. Clean spark plug.
	3. Incorrect spark plug gap.	3. Correct spark plug gap.
	4. Spark plug wire or spark plug broken.	4. Replace spark plug wire and/or spark plug.
	5. Incorrect spark timing or faulty ignition system.	5. Have qualified technician diagnose/ repair ignition system.
	COMPRESSION RELATED:	COMPRESSION RELATED:
	1. Cylinder not lubricated. Problem after long storage periods.	1. Pour tablespoon of oil into spark plug hole. Crank engine a few times and try to start again.
	2. Loose or broken spark plug. (Hissing noise will occur when trying to start.)	2. Tighten spark plug. If that does not work, replace spark plug. If problem persists, may have head gasket problem, see #3 below.
	3. Loose cylinder head or damaged head gasket. (Hissing noise will occur when trying to start.)	3. Tighten head. If that does not remedy problem, replace head gasket.
	4. Engine valves or tappets misadjusted or stuck.	4. Adjust valve clearance. If that does not work, clean or replace valves/ tappets.

Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

TROUBLESHOOTING - ENGINE

Problem	Possible Causes	Probable Solutions
Engine misfires	1. Spark plug wire loose. 2. Incorrect spark plug gap or damaged spark plug. 3. Defective spark plug wire. 4. Old or low quality gasoline. 5. Incorrect compression.	1. Check wire connections. 2. Re-gap or replace spark plug. 3. Replace spark plug wire. 4. Use only fresh 89+ octane unleaded gasoline. 5. Diagnose and repair compression. (Use **Engine will not start: COMPRESSION RELATED** section.)
Engine stops suddenly	1. Low oil shutdown. 2. Fuel tank empty or full of impure or low quality gasoline. 3. Defective fuel tank cap creating vacuum, preventing proper fuel flow. 4. Improper idle speed. 5. Faulty magneto, incorrect timing, or clogged carburetor.	1. Fill engine oil to proper level. Check engine oil before EVERY use. 2. Fill fuel tank with fresh 89+ octane unleaded gasoline. 3. Test/replace fuel tank cap. 4. Properly adjust idle speed. 5. Have qualified technician diagnose and service engine.
Engine knocks	1. Old or low quality gasoline. 2. Engine overloaded. 3. Incorrect spark timing, deposit buildup, worn engine, or other mechanical problems.	1. Fill fuel tank with fresh 89+ octane unleaded gasoline. 2. Do not exceed equipment's load rating. 3. Have qualified technician diagnose and service engine.
Engine backfires	1. Impure or low quality gasoline. 2. Engine too cold. 3. Choke not open after engine warm. 4. Engine not properly adjusted for high altitude operation. 5. Intake valve stuck, choke stuck, incorrect timing, clogged carburetor, or overheated engine.	1. Fill fuel tank with fresh 89+ octane unleaded gasoline. 2. Use cold weather fuel and oil additives to prevent backfiring. 3. Move choke to run position after engine warms up. 4. Qualified technician must adjust engine at altitudes greater than 5,000 feet above sea level. 5. Have qualified technician diagnose and service engine.

Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

TROUBLESHOOTING - SHREDDER

Problem	Possible Cause	Probable Solutions
Clutch overheats, V-Belt burns, Flywheel will not turn.	1. Clutch is slipping or Flywheel is jammed or stopped.	1. Immediately stop Engine. Remove Spark Plug Wire. Turn Flywheel by hand to make sure it turns freely. Check V-Belt condition and tension.
Chipping action seems too slow, or Flywheel stalling.	1. Engine speed is too slow. Belt is slipping.	1. Run Engine at full throttle. Check for loose V-Belt and tighten.
When chipping, branch seems to vibrate and moved about excessively.	1. Knife is dull. Gap between Knife and Wear Plate is too great.	1. Have a qualified service technician remove Knife and sharpen. Make sure to maintain same bevel of 45°.
Chipper Knife is hitting Wear Plate.	1. The gap between the Knife and Wear Plate is set incorrectly.	1. Have a qualified service technician adjust gap.
Engine runs, but chipping Flywheel does not rotate.	1. Inner shoes of Clutch worn. Retaining Springs weak or broken. Loose V-Belt.	1. Have a qualified service technician replace worn or broken Clutch parts. Check V-Belt tension. Clear Chipper Chamber.

Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

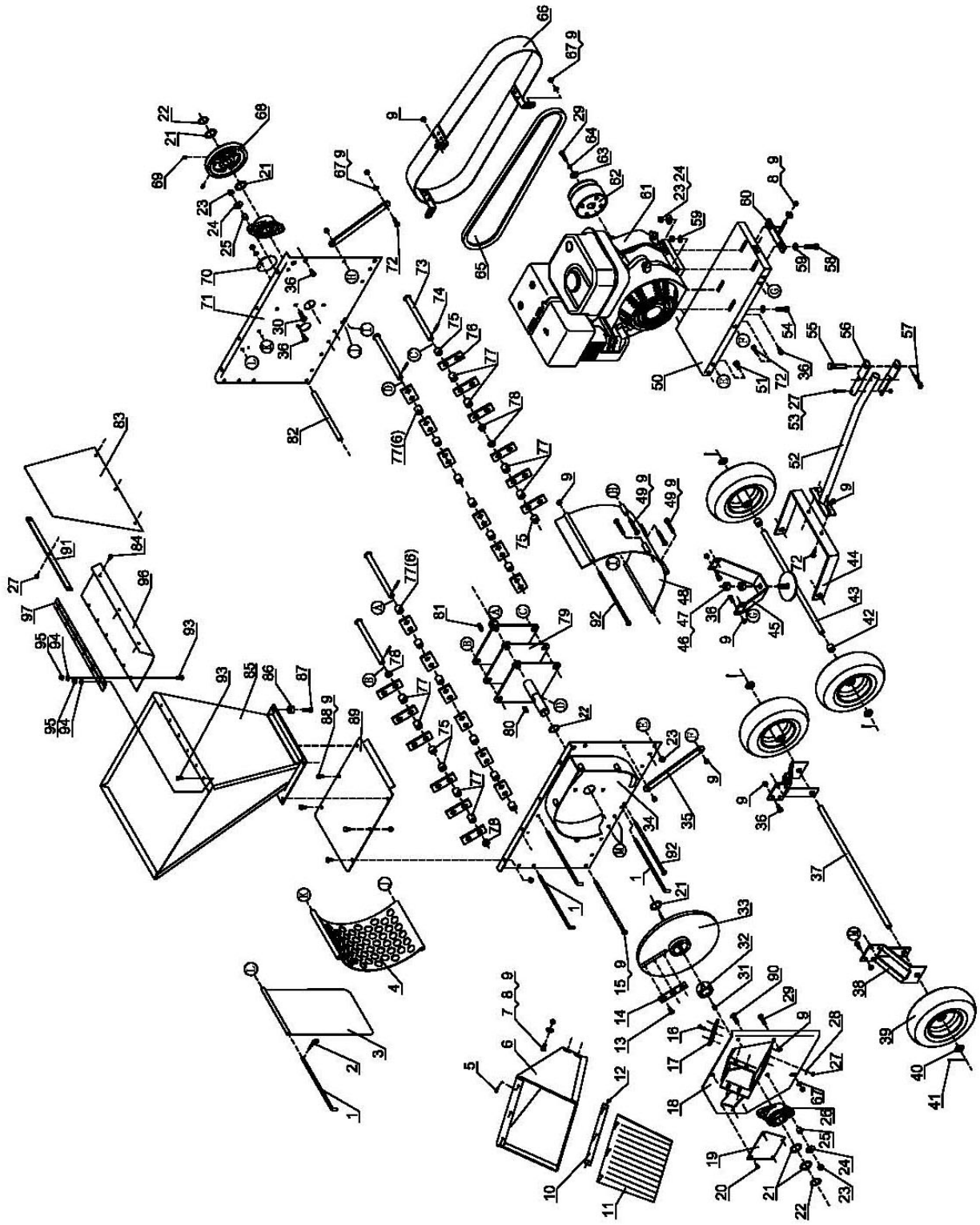
PARTS LISTS AND ASSEMBLY DIAGRAMS PARTS LIST - SHREDDER

ITEM	DESCRIPTION	QTY
1	Pin	4
2	R Pin Ø3	4
3	Guide Board	1
4	Sieve	1
5	Pan head screws M5X16	3
6	Chipper Hopper	1
7	Carriage Bolt M8x20	4
8	Big Washer Ø8	5
9	Lock Nut M8	40
10	Rubber Press Plate	1
11	Rubber protective Plate	1
12	Lock Nut M5	3
13	Screw M8X20	3
14	Blade	1
15	Hex Bolt M8X245	1
16	Step Bolt M6X25	3
17	Steel Mat	1
18	Blade Basic Assembly	1
19	Cover Plate	1
20	Hex Bolt M5X8	4
21	Washer Ø30	6
22	Axle Insert Retainer Ø30	3
23	Lock Nut M10	12
24	Big Washer Ø10	6
25	Axle Assemble Cap	4
26	Axle UCL206	2
27	Lock Nut M6	8
28	Big Washer Ø6	3
29	Hex Bolt M8X35	6
30	Hex Bolt M10X30	2
31	Screw M10X16	2
32	Blade Location Cap	1
33	Blade Assembly	1
34	Front Plate Assembly	1
35	Outrigger	2
36	Hex Bolt M8X20	11
37	Back Axle	1
38	Back Axle Bracket	2
39	Wheel	4
40	Flat Washer Ø16	4
41	Cotter Pin Ø3x30	4
42	Axle Bushing	2
43	Front Axle	1

ITEM	DESCRIPTION	QTY
44	Tow Handle	1
45	Front Axle Bracket	1
46	Hex Nut M16	1
47	Lock Nut M16	1
48	Bottom Plate	1
49	Hex Bolt M8X60	4
50	Engine Bottom Assembly	1
51	Hex Bolt M10X20	4
52	Handle Assembly	1
53	Hex Bolt M6X40	2
54	Hex Bolt M10X40	2
55	Round Pin Ø12X65	1
56	Handle Coupler	2
57	R Pin Ø3X75	1
58	Hex Bolt M10X45	2
59	Flat Washer Ø10	6
60	Belt Tighten Assembly	1
61	Engine	1
62	Clutch	1
63	Big Washer Ø8	1
64	Lock Washer Ø8	1
65	V-Belt (Goodyear SPB-1500)	1
66	Belt Guard	1
67	Flat Washer Ø8	4
68	Belt Pulley	1
69	Screw M8X10	2
70	Dome	1
71	Back Wallboard	1
72	Hex Bolt M8×25	4
73	Pin Axle	4
74	Spring Pin	4
75	Sinker Sleeve 2	4
76	Revolving Hammer	24
77	Sinker Sleeve 1	20
78	Sinker Sleeve 3	4
79	Principal Axle	1
80	Flat Key 1	1
81	Flat Key 2	1
82	Stay Tube	1
83	Plastic Board	1
84	Hex Bolt M6x16	3
85	Shredder Hopper	1
86	Cushion Washer	4
87	Hex Bolt M8X30	4

ITEM	DESCRIPTION	QTY
88	Hex Bolt M8X16	4
89	Cover Board	1
90	Inner Hex Screw M10x35	2
91	Press Bar for Plastic Board	1
92	Hex Bolt M8x255	2
93	Screw 4x12	12
94	Flat Washer Ø4	12
95	Lock Nut M4	12
96	Shredder Hopper Cover	1
97	Hinge	1

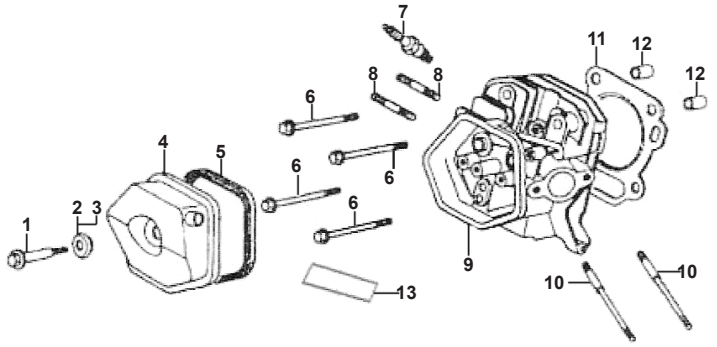
ASSEMBLY DIAGRAM - SHREDDER



PARTS LIST & ASSY. DIAGRAM - CYLINDER HEAD SYSTEM

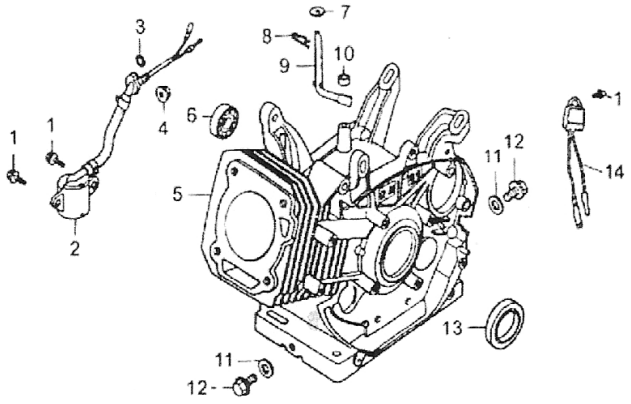
IMPORTANT NOTE:
When ordering engine parts, indicate the *engine component* listed at the top of each parts list, the *part number,* and *part name.*
(Example: "Cylinder Head System, Part #1, Head Bolt")

Part #	Description	Qty.	Part #	Description	Qty.
1	Head Bolt	1	8	Exhaust Stud Bolt	2
2	Head Cover Washer	1	9	Head Cylinder	1
3	Washer Cover Packing	1	10	Intake Stud Bolt	2
4	Head Cover	1	11	Cylinder Sealing Pad	1
5	Head Cover Packing	1	12	Dowel Pin (10 x 12 x 20)	2
6	Flange Bolt (10 x 80)	4	13	Breather Tube	1
7	Spark Plug	1			



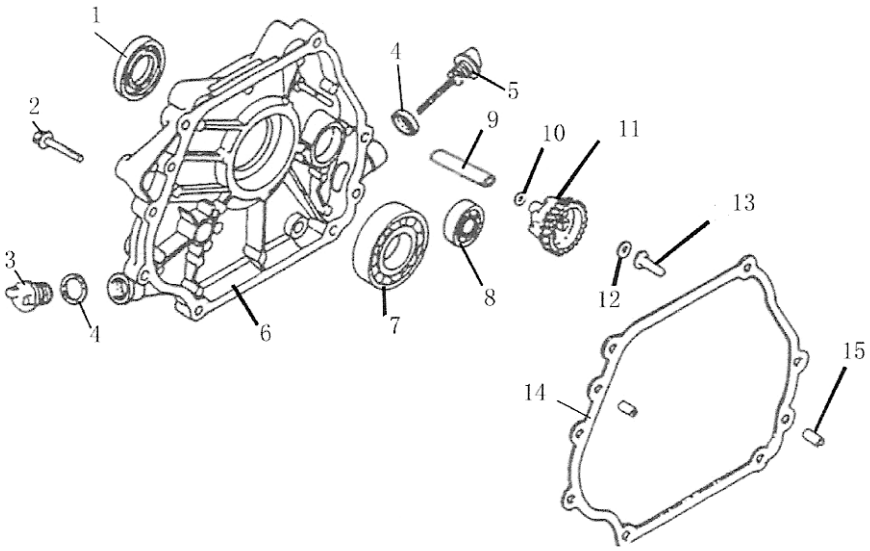
PARTS LIST & ASSY. DIAGRAM - CYLINDER BARREL

Part #	Description	Qty.	Part #	Description	Qty.
1	Flange Bolt (6 x 14)	3	8	Lock Pin (10mm)	1
2	Oil Level Switch Assy.	1	9	Governor Arm Shaft	1
3	O-Ring (14mm)	1	10	Oil Seal (8 x 14 x 5)	1
4	Flange Nut (10mm)	1	11	Drain Plug Washer (12mm)	2
5	Crankcase	1	12	Drain Plug Bolt	2
6	Radial Ball Bearing (6202)	1	13	Oil Seal (35 x 52 x 8)	1
7	Washer (8.3 x 17 x 1)	1	14	Oil Protector	1



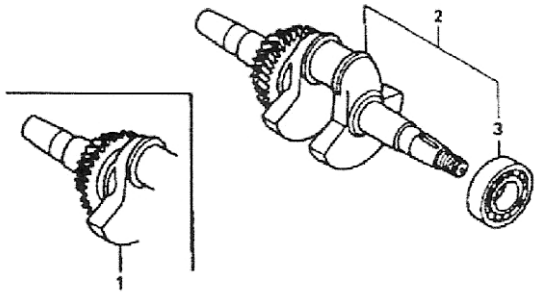
PARTS LIST & ASSY. DIAGRAM - CRANKCASE COVER

Part #	Description	Qty.	Part #	Description	Qty.
1	Oil Seal (35 x 52 x 8)	1	9	Adjusting Gear	1
2	Flange Bolt (8 x 35)	7	10	Governor Holder Clip	1
3	Crankcase Cover	1	11	Governor Weight Holder	1
4	Oil Filter Seal Ring	1	12	Plain Washer (6mm)	1
5	Oil Filter Cap	1	13	Slider Governor	1
6	Crankcase Cover	1	14	Governor Packing	1
7	Radial Ball Bearing (6207)	1	15	Dowel Pin (8 x 12)	1
8	Radial Ball Bearing (6202	1			



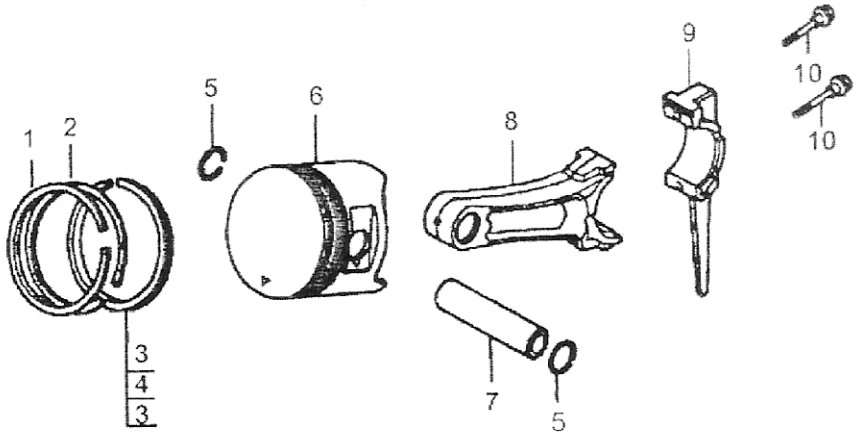
PARTS LIST & ASSY. DIAGRAM - CRANKSHAFT

Part #	Description	Qty.	Part #	Description	Qty.
1	Crankshaft	1	3	Balancer Weight	1
2	Radial Ball Bearing (6207)	1			



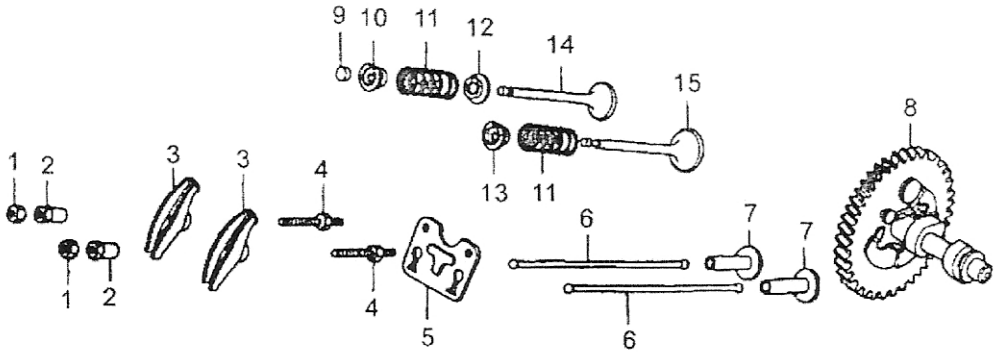
PARTS LIST & ASSY. DIAGRAM - PISTON

Part #	Description	Qty.	Part #	Description	Qty.
1	Piston Ring A	1	6	Piston	1
2	Piston Ring B	1	7	Piston Pin	1
3	Oil Ring A	1	8	Connecting Rod	1
4	Oil Ring B	1	9	Connecting Cover	1
5	Piston Pin Clip (20mm)	2	10	Connecting Rod Bolt	2



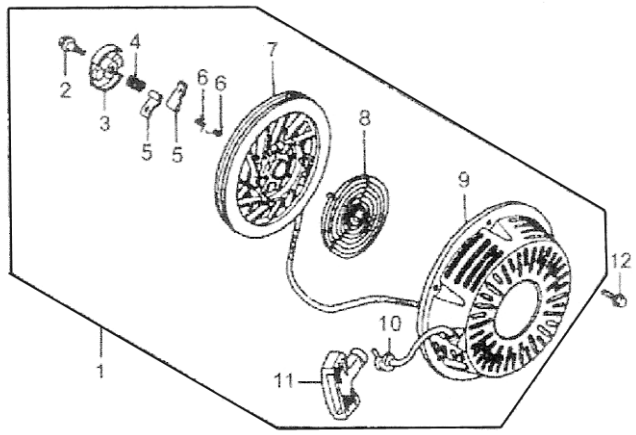
PARTS LIST & ASSY. DIAGRAM - CAMSHAFT

Part #	Description	Qty.	Part #	Description	Qty.
1	Pivot Adjusting Nut	2	9	Valve Rotator	1
2	Rocker Arm Pivot	2	10	Exhaust Valve Spring Retainer	1
3	Valve Rocker Arm	2	11	Valve Spring	2
4	Pivot Bolt (8mm)	2	12	Valve Spring Seat	2
5	Push Rod Guide Plate	1	13	Intake Valve Spring Retainer	1
6	Push Rod	2	14	Exhaust Valve	1
7	Valve Lifter	2	15	Intake Valve	1
8	Camshaft	1			



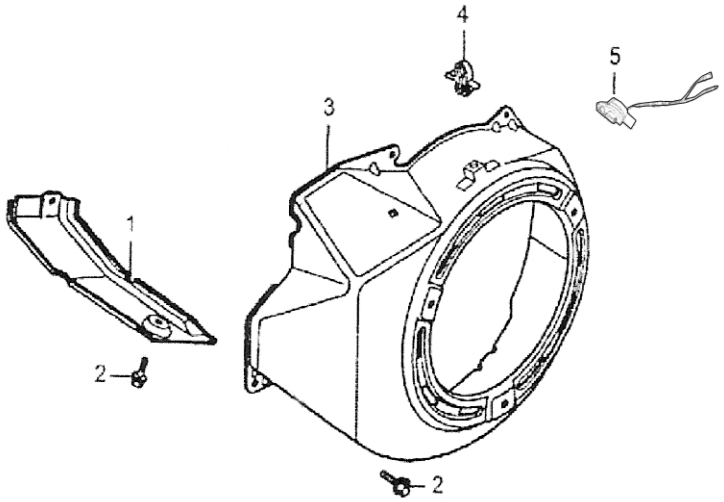
PARTS LIST & ASSY. DIAGRAM - RECOIL STARTER

Part #	Description	Qty.	Part #	Description	Qty.
1	Recoil Starter Assy.	1	7	Recoil Starter Pulley	1
2	Center Screw	1	8	Start Return Spring	1
3	Spring Retainer	1	9	Recoil Starter Case	1
4	Friction Spring	1	10	Recoil Starter Rope	1
5	Starter Ratchet	2	11	Starter Grip	1
6	Ratchet Spring	2	12	Flange Bolt (6 x 8)	3



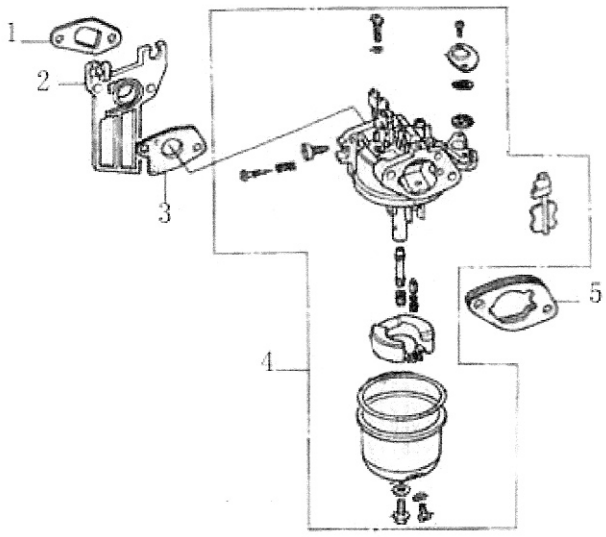
PARTS LIST & ASSY. DIAGRAM - FAN COVER

Part #	Description	Qty.	Part #	Description	Qty.
1	Shroud	1	4	Clip Wire Harness	1
2	Flange Bolt (6 x 14)	6	5	Engine Stop Switch	1
3	Fan Cover	1			1



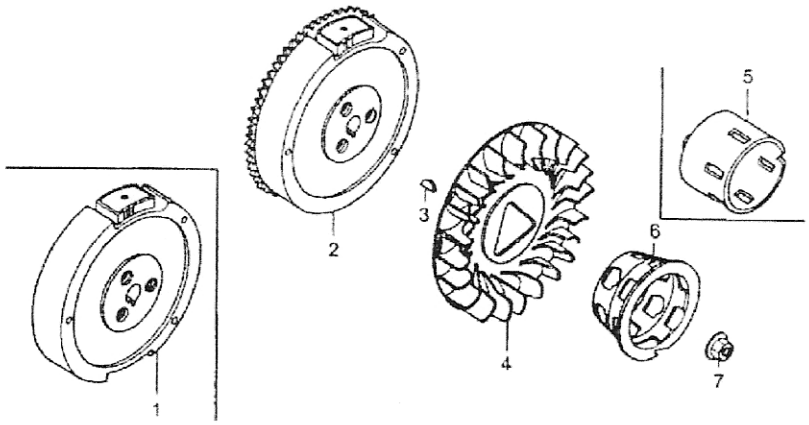
PARTS LIST & ASSY. DIAGRAM - CARBURETOR

Part #	Description	Qty.	Part #	Description	Qty.
1	Carburetor Packing A	1	4	Carburetor Assy.	1
2	Carburetor Insulating Plate	1	5	Carburetor Spacer	1
3	Carburetor Packing B	1			



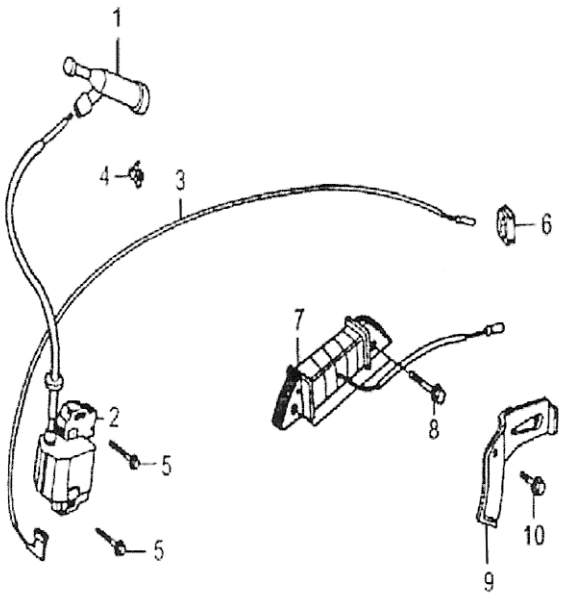
PARTS LIST & ASSY. DIAGRAM - FLYWHEEL

Part #	Description	Qty.	Part #	Description	Qty.
1	Flywheel A	1	5	Starter Pulley A	1
2	Flywheel B	1	6	Starter Pulley B	1
3	Special Woodruff Key	1	7	Special Nut (16mm)	1
4	Cooling Fan	1			



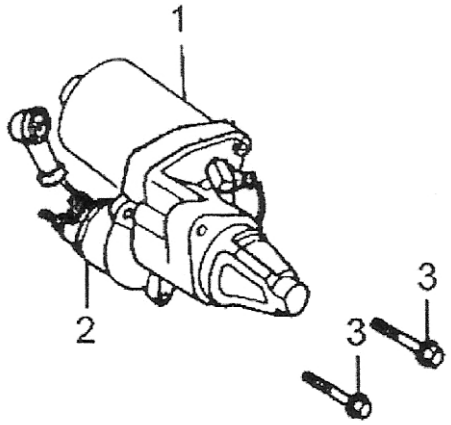
PARTS LIST & ASSY. DIAGRAM - IGNITION SYSTEM

Part #	Description	Qty.	Part #	Description	Qty.
1	Noise Suppressor Cap	1	6	Cord Grommet	1
2	Ignition Coil	1	7	Charge Coil	1
3	Stop Switch Cord	1	8	Flange Bolt (6 x 40)	2
4	Stop Switch Cord Holder A	1	9	Cord Clamp	1
5	Flange Bolt (6 x 25)	2	10	Flange Bolt (6 x 20)	1



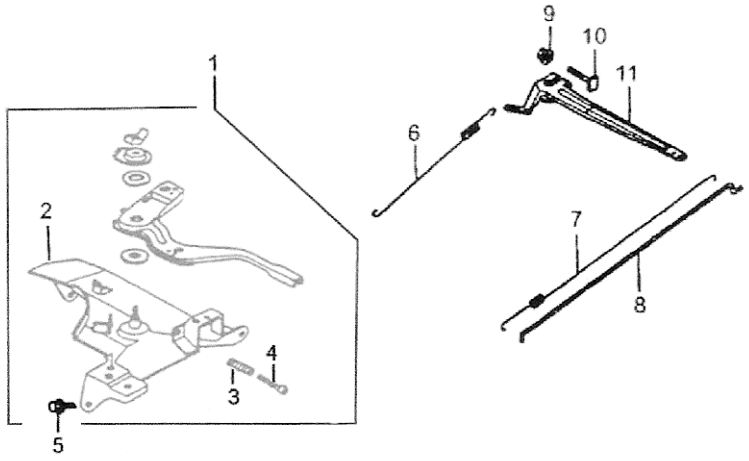
PARTS LIST & ASSY. DIAGRAM - STARTER MOTOR

Part #	Description	Qty.	Part #	Description	Qty.
1	Starter Motor Unit	1	3	Flange Bolt (8 x 35)	2
2	Contactor Assy.	1			



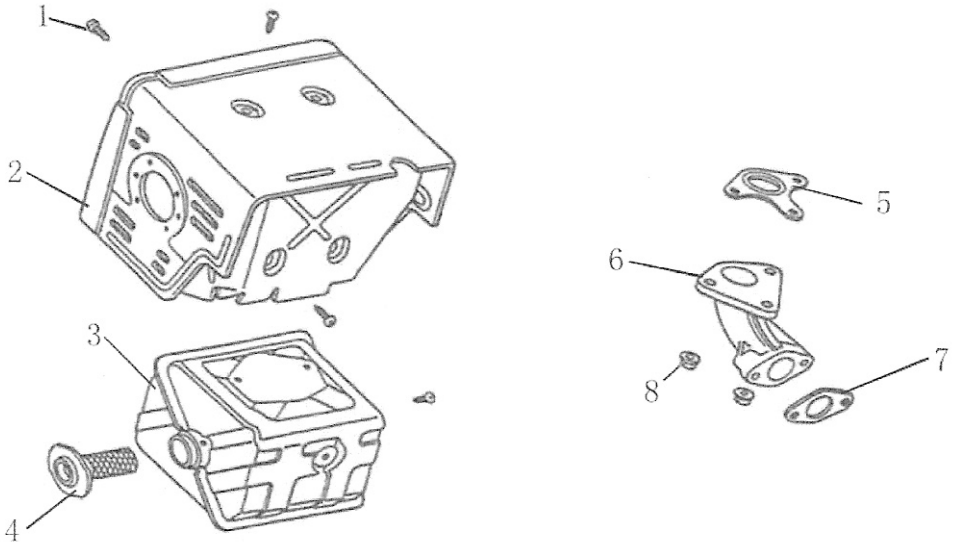
PARTS LIST & ASSY. DIAGRAM - CONTROL SYSTEM

Part #	Description	Qty.	Part #	Description	Qty.
1	Control Assy.	1	7	Governor Spring B	1
2	Control Base	1	8	Governor Rod	1
3	Control Adjusting Spring	1	9	Flange Nut (6mm)	1
4	Pan Screw (5 x 34)	1	10	Governor Arm Bolt	1
5	Flange Bolt (6 x 14)	1	11	Governor Arm	1
6	Governor Spring A	1			



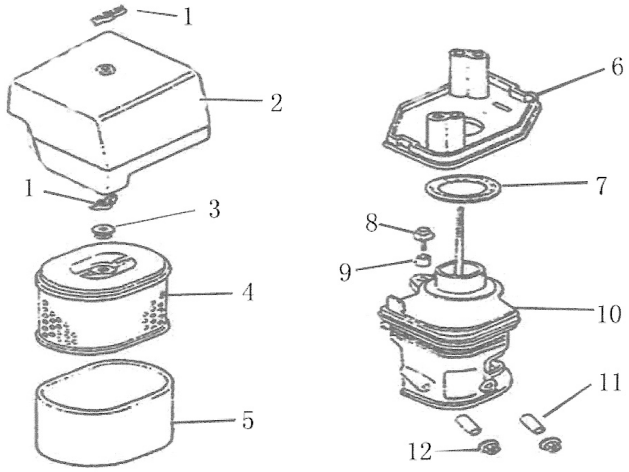
PARTS LIST & ASSY. DIAGRAM - MUFFLER SYSTEM

Part #	Description	Qty.	Part #	Description	Qty.
1	Tapping Screw (5 x 8)	4	5	Exhaust Pipe Gasket	1
2	Muffler Protector	1	6	Exhaust Pipe	1
3	Muffler	1	7	Muffler Gasket	1
4	Spark Arrester	1	8	Flange Nut (8mm)	2



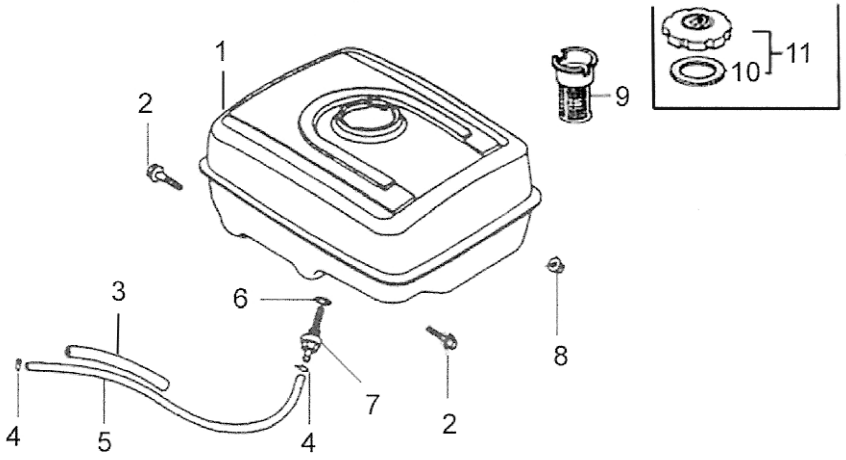
PARTS LIST & ASSY. DIAGRAM - AIR CLEANER

Part #	Description	Qty.	Part #	Description	Qty.
1	Air Cleaner Cover Nut	2	7	Elbow Packing	1
2	Air Cleaner Cover	1	8	Flange Bolt (6 x 20)	1
3	Air Cleaner Grommet	1	9	Air Cleaner Collar B	1
4	Air Cleaner Element	1	10	Air Cleaner Elbow	1
5	Outer Filter	1	11	Air Cleaner Collar A	1
6	Silencer Nose	1	12	Flange Nut (8mm)	2



PARTS LIST & ASSY. DIAGRAM - FUEL TANK SYSTEM

Part #	Description	Qty.	Part #	Description	Qty.
1	Fuel Tank	1	7	Fuel Tank Joint	1
2	Flange Bolt	1	8	Flange Nut (6mm)	1
3	Rubber Supporter	1	9	Fuel Filter	1
4	Tube Clip	1	10	Fuel Filler Cap Packing	1
5	Fuel Tube	1	11	Fuel Filler Cap	1
6	O-Ring (14mm)	1			1



LIMITED 1 YEAR / 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that for a period of ninety days from date of purchase that the engine/motor, the belts (if so equipped), and the blades (if so equipped) are free of defects in materials and workmanship. Harbor Freight Tools also warrants to the original purchaser, for a period of one year from date of purchase, that all other parts and components of the product are free from defects in materials and workmanship (90 days if used by a professional contractor or if used as rental equipment). This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

3491 Mission Oaks Blvd.
PO Box 6009 • Camarillo, CA 93011
(800) 444-3353

EMISSION CONTROL SYSTEM WARRANTY

California and United States Emission Control Defects Warranty Statement

The United States Environmental Protection Agency (herein EPA), and Harbor Freight Tools (herein HFT) are pleased to explain the emission control system warranty on your 1995 and later Small Off-Road Engine (herein engine). New off-road, spark-ignition engines certified for model year 1997 and later, must meet stringent anti-smog standards set forth by the EPA. HFT must warrant the emission control system on your engine for the periods of time described below, provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the carburetor or fuel-injection system, and the ignition system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, HFT will repair your engine at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage

The 1995 and later engines are warranted for two (2) years. If any emission-related part on your engine is defective, the part will be repaired or replaced by HFT.

Harbor Freight Tools Emission Control Defects Warranty Coverage

Engines are warranted for a period of two (2) years relative to emission control parts defects, subject to the provisions set forth below. If any emission related part on your engine is defective, the part will be repaired or replaced by HFT.

Owner's Warranty Responsibilities

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. HFT recommends that you retain all receipts covering maintenance on your engine, but HFT cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should, however, be aware that HFT may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for shipping your engine to a HFT warranty station as soon as a problem exists. Contact the HFT Customer Service department at the number below to make shipping arrangements. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact the Harbor

Freight Tools Customer Service Department at 1-800-444-3353.

Harbor Freight Tools Emission Control Defects Warranty Provisions

1. **Length of Coverage**

   HFT warrants to a first retail purchaser and each subsequent purchaser that the engine is free from defects in materials and workmanship that cause the failure of warranted parts for a period of two (2) years after the date of delivery to the first retail purchaser.

2. **No Charge Repair or Replacement**

   Repair or replacement of any warranted part will be performed at no charge to the owner if the work is performed through a warranty station authorized by HFT. For emissions warranty service, contact the HFT Customer Service Department at 1-800-444-3353.

3. **Consequential Damages Coverage**

   Coverage under this warranty shall also extend to the failure of any engine components caused by the failure of any warranted part while it is still covered under this warranty.

4. **Coverage Exclusions**

   Warranty claims shall be filed in accordance with the provisions of the HFT warranty policy explained in the box at the top of the previous page. HFT shall not be liable for any loss of use of the engine, for any alternative usage, for any damage to goods, loss of time, or inconvenience. Warranty coverage shall also be excluded for any part which fails, malfunctions, or is damaged due to failure to follow the maintenance and operating instructions set forth in the Owner's Manual including, but not limited to:

   a. Use of parts which are not authorized by HFT
   b. Improper installation, adjustment or repair of the engine or of any warranted part unless performed by an authorized warranty center
   c. Failure to follow recommendations on fuel use contained in the Owner's Manual
   d. Improper or inadequate maintenance of any warranted parts
   e. Repairs performed outside of the authorized warranty service dealers
   f. Alterations by changing, adding to or removing parts from the engine.

5. **Service and Maintenance**

   Component parts which are not scheduled for replacement as required maintenance or are scheduled only for regular inspection to the effect of "repair or replace as necessary" are warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time up to the first scheduled replacement point for that part. Any replacement part, provided it is equivalent in durability and performance, may be used in performance of maintenance or repairs. The owner is responsible for commissioning a qualified technician/mechanic to perform all required maintenance, as outlined in the Inspection, Cleaning, and Maintenance section in this manual.

6. **Warranted Parts**

   1. Fuel Metering System
      i. Carburetor and its internal parts.
      ii. Fuel pump (if so equipped).
      iii. Cold start enrichment system.
   2. Air Induction System
      i. Intake pipe/manifold.
      ii. Air cleaner.
   3. Ignition System
      i. Spark plug.
      ii. Magneto ignition system.
   4. Catalyst System (if so equipped)
      i. Exhaust pipe stud.
      ii. Muffler.
      iii. Catalytic converter (if so equipped).
   5. Miscellaneous Items Used in Above Systems
      i. Vacuum, temperature and time sensitive valves and switches.
      ii. Hoses, belts, connectors, and assemblies.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Record Product's Serial Number Here:

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.